DETAILED ACTION

Response to Arguments

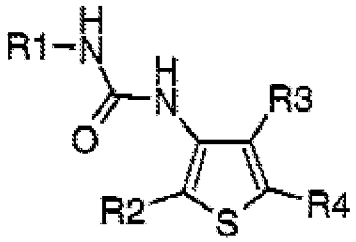
This Office Action is in response to the amendment submitted on 07/11/11. Claims 37-45 are currently pending in the application, with claims 38-45 having being withdrawn. Accordingly, claim 37 is being examined on the merits herein.

Receipt of the aforementioned amended claims is acknowledged and has been entered.

Additionally, the examiner reminds applicant that amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Since applicant did not indicate cancellation of claims 42-45, the Examiner will construe that such claims are still withdrawn.

Applicant's argument with respect to the 103(a) rejection of claim 37 over Parrish has been fully considered. Applicant argues that the Examiner has not established a *prima facie* case of obviousness and that a medicinal chemist of ordinary skill would not have been motivated to select and then modify a prior art compound to arrive at the claimed compound. Such arguments are however not found persuasive as the Examiner maintains that the generic formula (I) of Parrish does indeed render obvious applicant's compound: 5-(3-Fluorophenyl)-3-ureidothiophene-2-carboxylic acid (S)-

piperidin-3-ylamide. As discussed in the Office Action dated 11/03/10, Parrish teaches a generic formula (I) of the following structure:



(I)

wherein R1 can be a hydrogen, R2 can be a C(O)NHR5 wherein R5 can be a C0 alkyl heterocycl; R3 can be a hydrogen and R4 can be an aryl group substituted by A wherein A is a halogen (see pgs. 2-3). Moreover, Parrish teaches that the compounds possess the same properties as the instant compound wherein such compounds are CHK1 inhibitors (see abstract and pg. 1). Importantly, Parrish et al. teach that the definition for a heterocycle encompasses a 5-10 saturated ring wherein nitrogen can be a heteroatom rendering the piperidine functional group obvious (see pgs. 6-7). In fact, Parrish teaches that rings such as piperidine are envisioned as possible heterocycles further supporting the notion that a medicinal chemist of ordinary skill would readily envisaged a piperidine as the heterocycle group (see pg. 7, paragraph 3). Finally, Parrish et al teach structural similar compounds such as 5-(4-Fluoro-phenyl)-3-ureido-thiophene-2-carboxylic acid amide which further provide a motivation as to why one of ordinary skill in the art would envisaged the instant compound of claim 37 (see pg. 7, last paragraph). In light of the disclosure of Parrish et al., the Examiner maintains that a *prima facie* case of obviousness has indeed been established and one of ordinary skill

in the art would indeed have found it obvious to envisage and formulate the compound of claim 37 as taught by Parrish et al.

(a) As for applicant's arguments that one of ordinary skill in the art would not have selected any compound of Parrish as a lead compound, the Examiner refers applicant to the aforementioned arguments wherein Parrish teaches structurally similar compounds and compounds that encompass the compound delineated in claim 37. In fact, Parrish teaches particular functional groups that can be attached to the thioephene group including the heterocycle piperidine. Moreover, the compounds of Parrish possess the same properties as those the instant invention. Thus, in light of the teachings of Parrish et al., the Examiner maintains that one of ordinary skill in the art would have envisaged at once the compound of claim 37 based on the disclosure of Parrish. Contrary to applicant's argument, one of ordinary skill in the art would not need to modify the compound formula (I) of Parrish. Instead, one of ordinary skill in the art would have found it obvious to select the particular functional groups taught by Parrish out of the small genus delineated in the disclosure and arrive at the instant invention. Thus, for the reasons proffered above, the Examiner contends that the rejection of record remains proper and is maintained.

As for the rejoinder request, such request is being denied as claim 37 is not found allowable and the restriction requirement is still final as discussed in the Office Action dated 11/03/10.

For the foregoing reasons, the rejection of under 35 U.S.C. 103 (a) remains proper and is maintained. It is being made Final and re-stated below for applicant's convenience.

Objections

Claims 42-45 are objected to because of the following informalities: claims 42-45 are missing and amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

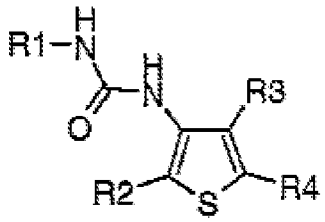
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Parrish et al. (WO 03/028731 A1, previously cited).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Parrish et al. teach CHK1 kinase inhibitors that are novel compounds and that have been found useful in the inhibition of damage response kinases as well as various

forms of cancer and hyperproliferative diseases (see abstract and pg. 1, top paragraph). Specifically, Parrish et al. teach compounds of formula (I):



(I)

wherein R1 is H; R2 is C(O)NHR5 with R5 being a C0alkyl heterocyclyl; R3 is H and R4 is an aryl optionally substituted by A wherein A is a halogen (see pg. 2, compound of formula (I) and pg. 3). By alkylheterocyclyl, Parrish et al. teach that the term means a heterocyclic group attached to an alkyl group and heterocyclyl means a saturated 5-10 membered ring system in which the ring contains one or more heteroatom such as nitrogen and which may be optionally substituted with hydrogen and further teach that piperidine can be such functional group (see pg. 6, paragraph 2 and pg. 7, paragraph 3). Additionally, Parrish et al. teach that the aforementioned compounds can also be formulated as esters, prodrugs, or pharmaceutically acceptable inorganic or organic salts and complexes thereof including acid addition salts or basic addition salts (see pg. 5, paragraph 2 and pg. 9, paragraphs 4-6).

Parrish et al. do not specifically teach the compound, 5-(3-Fluorophenyl)-3-ureidothiophene-2-carboxylic acid (S)-piperidin-3-ylamide.

The Examiner however contends that the compound of formula (I) of Parrish does indeed render obvious the compound of claim 37 since such compound is encompassed by the generic formula (I) of Parrish and given that Parrish teaches functional groups that can be readily envisaged by one of ordinary skill in the art and given that such compounds can be synthesized as novel CHK1 kinase inhibitors.

Thus, to one of ordinary skill in the art at the time of the invention would have found it obvious to utilize the compounds encompassed by formula (I) of Parrish including 5-(3-Fluorophenyl)-3-ureidothiophene-2-carboxylic acid (S)-piperidin-3-ylamide given that Parrish et al. teach synthesis of such compounds as CHK1 kinase inhibitors. Given the teachings of Parrish et al., one of ordinary skill would have been motivated to utilize the compound of formula (I) of Parrish including 5-(3-Fluorophenyl)-3-ureidothiophene-2-carboxylic acid (S)-piperidin-3-ylamide with the reasonable expectation that such compounds are effective in inhibiting CHK1 kinase and effective in treating hyperproliferative diseases.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samira Jean-Louis whose telephone number is 571-270-3503. The examiner can normally be reached on 7:30-6 PM EST M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J. L. /

Examiner, Art Unit 1627

07/12/2011

/SREENI PADMANABHAN/

Supervisory Patent Examiner, Art Unit 1627